

## NOTES

### A NEW COMBINATION IN *EPILOBIUM* (ONAGRACEAE)

In his sectional delimitation of the genus *Epilobium*, Raven (1976) reduced the diploid ( $n = 15$ ) *Zauschneria septentrionalis* Keck to a subspecies of the polymorphic diploid and tetraploid ( $n = 30$ ) *E. canum* (Greene) Raven. We agree with most aspects of his interpretation, but have concluded as a result of detailed field and herbarium studies that *Zauschneria septentrionalis* should be treated as a distinct species. It is entirely allopatric with *E. canum* s. lat., although the two entities occur within about 200 m of one another along the Trinity River and the South Fork of the Eel River. The more local diploid is characterized by a distribution on rock ledges in the valleys of the Eel, Mattole, and Trinity rivers of Humboldt, Mendocino, and Trinity counties, California, at elevations from 20 to 125 m. It can readily be distinguished from all phases of *E. canum* by a combination of its distinctive short but suffruticose habit, subentire leaf margins, and white-canescence pubescence on the lower leaves. We therefore propose the following new combination, in anticipation of a more complete sectional revision, and in order to make the name available.

***Epilobium septentrionale*** (Keck) Bowman & Hoch, comb. nov. Based on *Zauschneria septentrionalis* Keck, Publ. Carnegie Inst. Wash. 520: 219. 1940.

*Epilobium canum* (Greene) Raven subsp. *septentrionale* (Keck) Raven, Ann. Missouri Bot. Gard. 63: 335. 1976.

We agree with Raven (1976) in treating the remainder of *Epilobium* sect. *Zauschneria* as a single species, *Epilobium canum*. Our treatment of the diploid *E. canum* subsp. *garrettii* (A. Nels.) Raven, of the Great Basin, and the tetraploid *E. canum* subsp. *latifolium* (Hook.) Raven, mostly of the Sierra Nevada and northern Coast Ranges, follows that of Raven (1976) and others exactly. Our studies have led us to the conclusion, however, that *E. canum* subsp. *canum* should be treated in a much more inclusive sense. Here we place both the diploid, previously treated as *E. canum* subsp. *canum*, as well as the morphologically indistinguishable tetraploid, treated by Clausen et al. (1940) as *Zauschneria californica* subsp. *angustifolia* Keck. In addition, because of its complex intergrading pattern of variation, we have also included within this subspecies the often broad-leaved plants, partly with a more northern distribution, that have been treated as *Zauschneria californica* subsp. *typica* Keck (Clausen et al., 1940), *Zauschneria californica* subsp. *mexicana* (Presl) Raven (Raven, 1962), or *Epilobium canum* subsp. *mexicanum* (Presl) Raven (Raven, 1976). Great variability exists among these plants in stature; size, shape, and distribution of the leaves; vestiture; and other characters; but not even a combination of them consistently delimits clear taxonomic patterns. Following detailed study of the populations involved in the herbarium, it seems preferable to retain all within the limits of a single variable subspecies.

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## LITERATURE CITED

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CHROMOSOME NUMBER IN TWO PRIMITIVE DICOTS,  
*XYMALOS MONOSPORA* (MONIMIACEAE) AND  
*PIPTOCALYX MOOREI* (TRIMENIACEAE)

*Xymalos monospora* (Harvey) Baill.  $2n = 40-42$ . Zimbabwe-Rhodesia, Bunga Forest, Umtali distr., Müller s.n. (13 Aug. 1978) (SRGH).

Chromosomes of *Xymalos* are small in size, ranging from 1.5–2.5  $\mu\text{m}$  and comparable in appearance to those of other Monimiaceae studied by Goldblatt (1974). Small size and high number made an accurate count for *Xymalos* difficult, especially as the material available was very limited.

*Piptocalyx moorei* Oliver ex. Benth.  $2n = 16$ . Australia, New South Wales, North Coast, Floyd 1104 (NSW).

The chromosomes of *Piptocalyx* are substantially larger than those of *Xymalos* and range from 3–4.5  $\mu\text{m}$  in size. Details of chromosome morphology are clearly visible and are illustrated in Fig. 1.

*Xymalos* is a monotypic genus of eastern south-tropical Africa, usually assigned to Monimiaceae s.l. The only other African genus is the tropical West African *Glossocalyx*, one of three genera of Monimiaceae-Siparunoideae (sometimes segregated as Siparunaceae); however, Monimiaceae-Monimioideae are well represented on the offshore African islands of Madagascar and the Mascarenes. An alternative systematic position for *Xymalos* was proposed by Hutchinson (1964) who placed the genus in the otherwise Pacific family Trimeniaceae. This treatment is not generally accepted (Schodde, 1970; Thorne, 1974) but was followed by Dyer (1975) in his revised generic flora of southern Africa.

There are strong cytological differences between Monimiaceae and Trimeniaceae, the former having base numbers at a palaeohexaploid level,  $x = 22-19$ . Base numbers for Monimiaceae s.s. (excluding Siparunaceae,  $x = 22$ , and Atherospermataceae,  $x = 22$ ) are mostly  $x = 19$  with counts also for  $n = 22$  and  $n = 18$  in two genera (Ehrendorfer et al., 1968; Goldblatt, 1974), while Trimeniaceae